

## Claims

1. A method, in which a sterilizing agent is used to sterilize bottles of a temperature-sensitive plastic, especially PET bottles, which are being advanced along a conveying path periodically, wherein a peroxide aerosol, heated to the starting temperature of the sterilization, is blown into the interior of the bottles and a peroxide condensate film is formed on the inner wall of the bottles, and subsequently sterile air, with an activation temperature exceeding the sterilization starting temperature of the peroxide aerosol, is blown into the interior of the bottles, until the aerosol condensate has evaporated, after which residues of peroxide are expelled from the interior of the bottles by the renewed blowing in of sterile air.

2. The method of claim 1, wherein the peroxide is fogged into an aerosol at ambient temperature and heated to the starting temperature of the sterilization on the way to the interior of the bottles.

3. The method of claims 1 or 2, wherein the peroxide aerosol, before it is introduced into the bottles, is heated to a temperature of about 60° to 90°C and preferably of about 70° to 80°C as the starting temperature for the sterilization.

4. The method of one of the claims 1 to 3, wherein the peroxide aerosol, before it is blown into the bottles, is introduced into flowing sterile air, which has been heated to an activation temperature and heated by the latter to the sterilization starting temperature on the way to the interior of the bottles.

5. The method of one of the claims 1 to 3, wherein the peroxide aerosol and the sterile air are kept separate until they enter the interior of the bottles.

6. The method of one of the claims 1 to 5, wherein the introduction of peroxide aerosol into the interior of the bottles is carried out in at least two separate, consecutive steps.

7. The method of one of the claims 1 to 6, wherein, following the blowing in of peroxide aerosol, at least one pause in the action, corresponding to at least one conveying cycle of the bottles, precedes the blowing of sterile air, heated to the activation temperature, into the interior of the bottles.

8. The method of one of the claims 1 to 7, wherein sterile air is blown in in at least two separate steps, corresponding in each case to one conveying cycle of the bottles.

9. The method of one of the claims 1 to 8, wherein the sterile air is heated to an activation temperature of about 90° to 120°C and preferably of about 110°C.

10. The method of one of the claims 1 to 9, wherein, after sterile air heated to the activation temperature has been blown in, sterile air, which has been heated to a lower temperature, is blown in in subsequent, separate processes.

11. The method of claim 10, wherein the lower temperature of the sterile air is about 75° to 85°C and preferably about 80°C.

*Sub A3* 12. The method of one of the claims 1 to 11, wherein the sterile air, which has been heated to the activation temperature, is blown at the rate of about 25 to 30 m/s and preferably of about 28 m/s into the interior of the bottles.

13. The method of one of the claims 1 to 12, wherein the sterile air is blown in at a lower temperature with a flow rate of about 70 to 90 m/s and preferably of about 80 m/s into the interior of the bottles.

14. The method of one of the claims 1 to 12, wherein sterile air is blown in over a period of 1 to 3 seconds and preferably of about 2 seconds.

15. The method of one or more of the claims 1 to 14, wherein about 0.15 ml of peroxide per 100 cm<sup>2</sup> of interior surface of the bottles is introduced into the latter.